

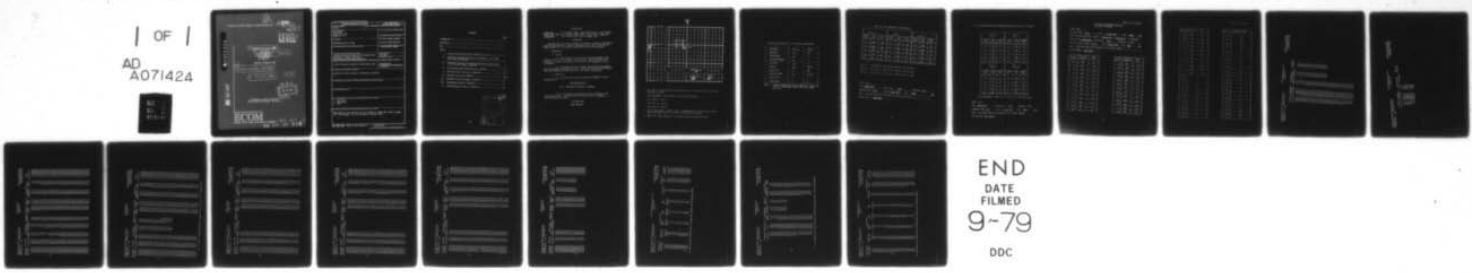
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19304 GSRS MISSILE NUMBER 1027 ROUND NUMBER V-27 10 MAY 1979.(U)
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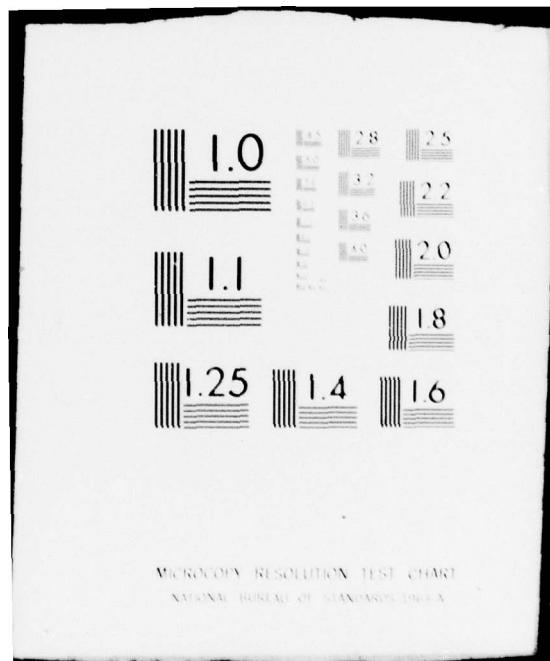
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(11) DR 1011
MAY 1979
AD

(12) 21P. *A*

LEVEL *A*

(9) METEOROLOGICAL DATA REPORT

(6) 19304 GSRS
Missile No. 1027
Round No. V-27
10 May 1979
by

Number

WSMR Meteorological Team

(14) ERADCOM/ASL-DR-1011

(16) 1T665702D126

(17) 102

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REF ID: A64211
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ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR 1011	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
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19. KEY WORDS (Continue on reverse side if necessary and identify by block number) 1. Ballistics 2. Meteorology 3. Wind		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 19304 GSRS, Missile Number 1027, Round Number V-27, are presented in tabular form.		

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INTRODUCTION

19304A GSRS, Missile Number 1027, Round Number V-27, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0900 MDT, 10 May 1979. The scheduled launch time was 0900 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

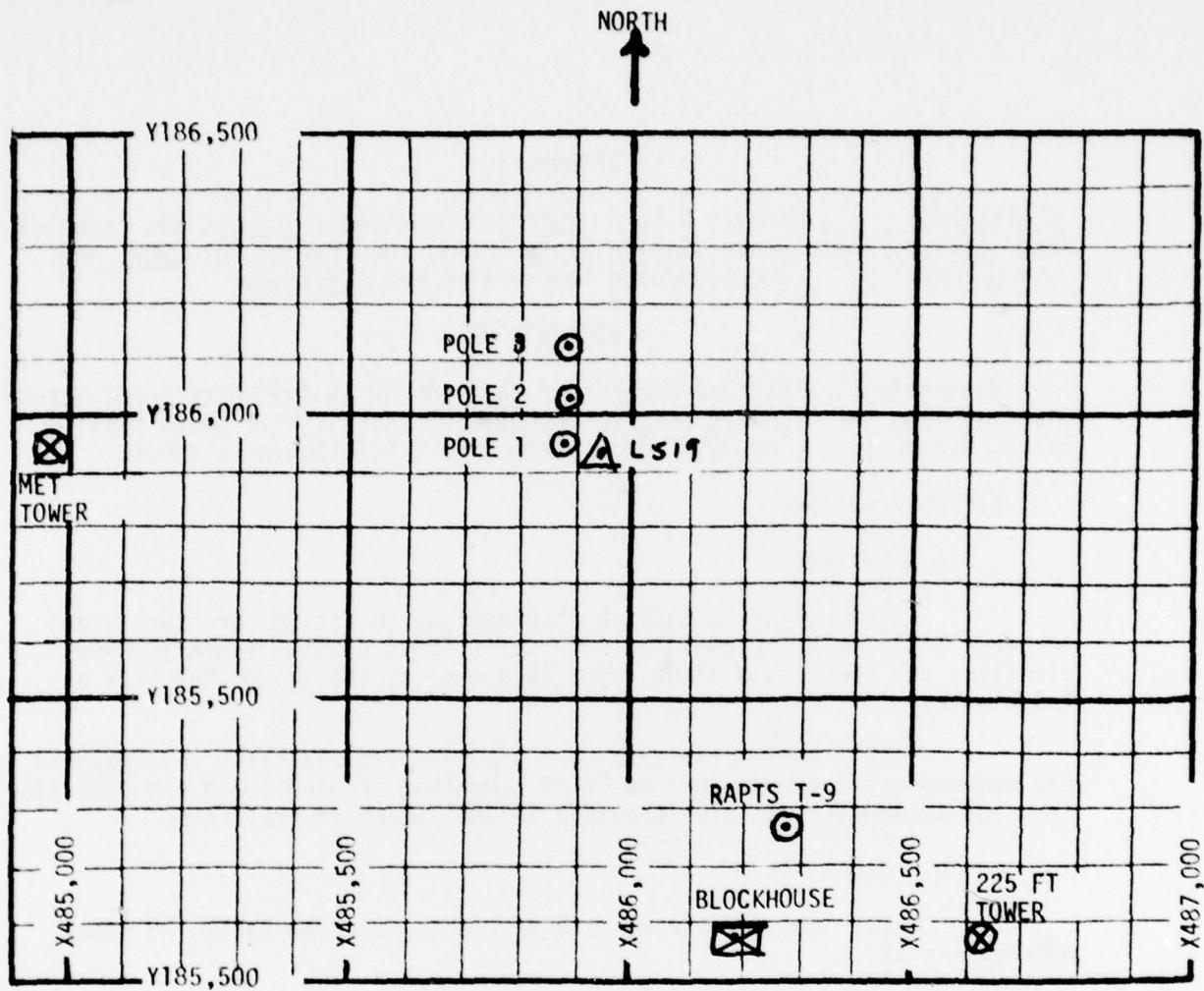
SITE AND ALTITUDE

LC-33 1080 meters (30-meter increments)

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 113,000 feet in 500-feet increments.

SITE AND TIME

SMR 0800 MST



1. MET TOWER - 4 Bendix Model T-120 Anemometers at 12 ft, 62 ft, 102 ft and 202 ft with E/A recorders.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders.
 - (a) Pole #1 - 38.7 ft
 - (b) Pole #2 - 53.0 ft
 - (c) Pole #3 - 83.6 ft
3. 225 FT WIND TOWER - 5 Bendix Model T-120 Anemometers at 35 ft, 88 ft, 128 ft, 168 ft and 200 ft with 5 X-Y visual indicators in Blockhouse.
4. RAPTS T-9 - Radar Automatic Pilot-Balloon Tracking System T-9 Radar

The data are presented in the following tabulations:

ELEVATION	3977.30	FT/MSL
PRESSURE	877.1	MBS
TEMPERATURE	11.6	°C
RELATIVE HUMIDITY	44	%
DEW POINT	-0.2	°C
DENSITY	1069	GM/M ³
WIND SPEED	10	MPH
WIND DIRECTION	230	DEGREES
CLOUD COVER	4	Sc
CLOUD COVER	5	Ac

TABLE I. SURFACE OBSERVATIONS TAKEN AT 0900 MDT, 10 MAY 1979,
AT LC-33, 19304A GSRS, MISSILE NO. 1027, ROUND
NO. V-27.

LC-3 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1			POLE #2			POLE #3		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	204	05	-30	217	06	-30	200	02
-20	202	05	-20	212	06	-20	200	02
-10	194	06	-10	213	06	-10	196	01
0.0	191	06	0.0	213	07	0.0	199	02
+10	201	06	+10	210	06	+10	182	02

POLE #1 = X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL

POLE #2 = X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL

POLE #3 = X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL

TABLE II

TYPE 19304A GSRS MISSILE NO. 1027 ROUND NO. V-27
 LAUNCHED FROM LC-33 DATE 10 May 1979 TIME 0900 MDT
 NOTE: WIND DIRECTIONS ARE REFERENCED TO THE FIRING AZIMUTH
 OR TRUE NORTH TRUE NORTH.

LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1 12 ft			LEVEL #2 62 ft		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	207	02	-30	184	03
-20	206	02	-20	186	03
-10	204	01	-10	183	03
0.0	185	02	0.0	186	03
+10	186	01	+10	189	03
LEVEL #3 102 ft			LEVEL #4 202 ft		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	214	04	-30	210	03
-20	211	03	-20	209	04
-10	210	03	-10	198	05
0.0	210	03	0.0	193	04
+10	206	02	+10	193	05

WTSM COORDINATES: X484,082.64 Y185,957.73 H3983.00 (base)

TABLE III

TYPE 19304A GSRS MISSILE NO. 1027 ROUND NO. V-27
 LAUNCHED FROM LC-33 DATE 10 May 1979 TIME 0900 MDT
 NOTE: WIND DIRECTIONS ARE REFERENCED TO THE FIRING AZIMUTH
 OR TRUE NORTH TRUE NORTH

PILOT BALLOON MEASURED WIND DATA
(30 meter increments)

TABLE IV

RELEASED FROM LC-33 DATE 10 May 1979 TIME 0900 MDT

RELEASE POINT COORDINATES (WSTM) X= 486.037.24 Y= 186.350.16 H= 3977.30

MISSILE TYPE 19304A GSRS MISSILE NO. 1027 ROUND NO. V-27

MISSILE LAUNCHED FROM LC-33 DATE 10 May 1979 TIME 0900 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO THE FIRING AZIMUTH

OR TRUE NORTH TRUE NORTH

HEIGHT mtrs AGL	DIRECTION DEGREES	SPEED MPH
SFC	230	3.0
30	229	3.0
60	227	2.5
90	225	2.0
120	223	1.5
150	214	1.5
180	204	1.5
210	194	1.5
240	184	1.5
270	185	1.5
300	185	1.5
330	186	1.5
360	186	1.0

HEIGHT mtrs AGL	DIRECTION DEGREES	SPEED MPH
390	191	1.5
420	196	2.0
450	201	2.5
480	205	2.5
510	208	3.0
540	211	3.0
570	214	3.5
600	216	3.5
630	222	4.0
660	228	4.5
690	234	5.0
720	239	5.0
750	243	5.5

HEIGHT metres AGL	DIRECTION DEGREES	SPEED MPH
280	247	5.5
810	251	6.0
840	254	6.0
870	254	6.5
900	254	6.5
930	254	7.0
960	253	7.0
990	254	7.5
1020	254	7.5
1050	254	8.0
1080	254	8.0
1110		
1140		
1170		
1200		
1230		
1260		
1290		
1320		
1350		
1380		
1410		

HEIGHT metres AGL	DIRECTION DEGREES	SPEED MPH
1440		
1470		
1500		
1530		
1560		
1590		
1620		
1650		
1680		
1710		
1740		
1770		
1800		
1830		
1860		
1890		
1920		
1950		
1980		
2010		
2040		
2070		

STATION ALTITUDE 3997.30 FEET MSL
 10 MAY 79 0600 HRS MST
 ASCENSION NO. 102

SIGNIFICANT LEVEL DATA
 1300060102
 S M R

GEOGRAPHIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
875.4	3997.3	13.4	-3.4
650.0	4806.3	10.6	-7.1
743.8	8394.7	1.2	-10.9
700.0	9987.1	-2.9	-12.9
659.1	11541.7	-7.5	-16.5
652.8	11767.8	-7.1	-9.3
617.6	13194.6	-9.7	-10.1
599.2	13970.0	-10.5	-13.3
574.2	15044.4	-12.8	-14.2
557.6	15777.5	-15.1	-15.6
533.4	16877.8	-16.8	-17.0
525.6	17241.2	-17.6	-29.6
517.6	17619.5	-16.6	-32.6
507.6	18105.6	-12.4	-29.4
500.0	18484.7	-12.4	-29.2
486.6	19166.9	-12.6	-29.4
449.6	21156.6	-16.8	-32.5
407.0	23567.8	-22.7	-37.2
400.0	23986.3	-23.0	-37.5
373.4	25653.3	-25.2	-39.4
300.0	30749.5	-36.7	-48.6
250.0	34813.5	-47.4	27.0
228.2	37778.7	-52.4	
216.4	37712.1	-53.1	
200.0	39502.0	-57.6	
188.2	40821.3	-59.6	
181.4	41522.0	-58.4	
152.6	45141.4	-61.4	
150.0	45493.8	-60.2	
144.8	46224.3	-57.3	
137.2	47346.7	-57.9	
126.2	49094.3	-55.4	
115.6	50962.8	-50.0	
100.0	54041.8	-56.7	
89.2	56401.9	-62.3	
82.8	57921.0	-61.9	
76.8	59476.0	-56.8	
70.0	61398.7	-60.6	
67.8	62053.0	-62.0	
59.0	64947.7	-52.8	

STATION ALTITUDE 3997.30 FEET MSL
10 MAY 79 0800 HRS MST
ASCENSION NO. 102

SIGNIFICANT LEVEL DATA
1300060102
S M R

GEODETIC COORDINATES
32°48'34" LAT DEG
106°42'30" LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE METERS	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES CENTIGRADE	WATER DEGREES CENTIGRADE	
50.0	68157.5	-54.2	-52.0	
44.3	70841.7	-54.0	-54.0	
39.0	73751.5	-49.0	-49.0	
30.0	79383.8	-45.8	-45.8	
24.6	83725.0	-46.3	-46.3	
20.0	88282.5	-36.2	-36.2	
10.0	103879.9	-38.6	-38.6	
7.0	112048.5	-39.8	-39.8	
6.7	113044.4			

STATION ALTITUDE 3997.30 FEET MSL
 10 MAY 79 0800 HRS MST
 ASCENSION NO. 102

UPPER AIR DATA
1300060102
S M R

GEOGRAPHIC COORDINATES
32°48'03" LAT DEG
106°42'30" LONG DEG

GEOMETRIC ALTITUDE IN MSLM FEET	PRESSURE IN MILLIBARS	TEMPERATURE AIR DEGREE DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	WIND DATA			INDEX OF REFRACTION
					DEWEPOINT DEGREES CENTIGRADE	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TIN)	
3997.3	875.4	13.4	-3.8	30.0	1062.1	660.1	170.0	1.000258
4000.0	875.3	13.4	-3.8	30.0	1062.1	660.1	170.0	1.000258
4500.0	859.5	11.7	-5.9	28.8	1049.5	658.0	193.3	1.000252
5000.0	843.9	10.1	-7.3	28.6	1036.3	656.2	224.5	1.000248
5500.0	828.4	8.8	-7.7	30.3	1021.9	654.6	250.1	1.000244
6000.0	813.1	7.5	-8.1	32.0	1007.8	653.1	265.7	1.000240
6500.0	798.1	6.2	-8.6	33.7	993.9	651.0	274.1	1.000237
7000.0	783.4	4.9	-9.2	35.3	980.2	650.0	273.1	1.000233
7500.0	769.0	3.5	-9.7	37.0	966.8	649.5	281.0	1.000230
8000.0	754.8	2.2	-10.4	38.7	953.5	649.9	283.1	1.000226
8500.0	740.8	.9	-11.0	40.4	940.3	645.4	279.4	1.000223
9000.0	726.8	-.4	-11.6	42.3	927.0	643.9	276.0	1.000219
9500.0	713.1	-1.6	-12.2	44.2	913.8	642.3	272.1	1.000216
10000.0	699.6	-2.9	-12.9	46.2	900.9	640.0	268.9	1.000212
10500.0	686.2	-4.4	-12.5	52.9	888.9	639.0	265.9	1.000210
11000.0	673.1	-5.9	-12.5	59.7	876.2	637.3	261.9	1.000208
11500.0	660.2	-7.4	-12.5	66.4	864.2	635.5	255.9	1.000205
12000.0	647.4	-7.5	-9.4	86.0	847.5	635.5	250.5	1.000205
12500.0	634.8	-8.4	-9.7	90.5	833.9	634.4	245.4	1.000204
13000.0	622.5	-9.3	-10.0	95.2	820.6	633.3	241.4	1.000198
13500.0	610.4	-10.0	-11.3	90.3	806.8	632.5	238.0	1.000194
14000.0	598.5	-10.6	-13.3	80.3	792.9	631.7	233.9	1.000189
14500.0	586.7	-11.6	-13.7	84.4	780.5	630.4	230.0	1.000186
15000.0	575.2	-12.7	-14.2	88.6	768.4	629.1	227.6	1.000183
15500.0	563.8	-14.2	-15.1	93.3	757.6	627.3	225.1	1.000179
16000.0	552.6	-15.4	-15.9	96.4	746.1	625.8	225.3	1.000176
16500.0	541.6	-16.2	-16.5	97.3	733.5	624.5	225.4	1.000173
17000.0	530.8	-17.1	-20.2	76.5	721.4	623.7	224.3	1.000168
17500.0	520.1	-16.9	-31.6	26.5	706.9	623.7	223.3	1.000160
18000.0	509.8	-13.3	-30.0	23.0	683.2	626.8	222.4	1.000155
18500.0	499.7	-12.4	-29.2	23.0	667.3	629.2	221.6	1.000152
19000.0	489.8	-12.6	-29.3	23.0	654.5	629.0	221.9	1.000149
19500.0	480.1	-13.3	-29.9	23.2	643.5	628.1	222.3	1.000146
20000.0	470.6	-14.4	-30.7	23.4	633.3	626.8	223.1	1.000144
20500.0	461.2	-15.4	-31.5	23.7	623.3	625.5	224.1	1.000141
21000.0	452.1	-16.5	-32.3	23.9	613.4	624.2	225.2	1.000139
21500.0	443.0	-17.7	-33.2	24.1	602.4	624.0	226.1	1.000137
22000.0	434.0	-18.9	-34.2	24.4	594.4	621.3	227.0	1.000134
22500.0	425.2	-20.1	-35.2	24.6	585.2	619.8	227.5	1.000132
23000.0	416.6	-21.3	-36.2	24.8	576.1	618.3	228.1	1.000130

STATION ALTITUDE 3997.30 FEET MSL
10 MAY 79 0800 HRS MST
ASCENSION NO. 102

UPPER AIR DATA
1300060102
S M R

GEODETIC COORDINATES
32°48'03.4" LAT DEG
106°42'30.7" LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	408.1	-72.5	-37.1	25.0	567.2	616.8	227.9	92.3
24000.0	399.3	-75.0	-37.5	25.0	556.6	610.2	227.7	91.3
24500.0	391.5	-73.7	-36.1	25.0	546.6	615.4	227.3	91.3
25000.0	383.5	-74.3	-38.7	25.0	536.8	614.6	226.9	94.3
25500.0	375.6	-75.0	-39.2	25.0	527.2	613.7	226.7	96.4
26000.0	367.7	-76.0	-40.1	25.1	516.2	612.5	226.5	98.5
26500.0	359.9	-77.1	-41.1	25.3	509.5	611.1	226.4	99.5
27000.0	352.3	-78.3	-41.9	25.5	501.5	609.7	226.2	100.4
27500.0	344.8	-79.4	-42.8	25.7	492.7	608.3	226.1	101.7
28000.0	337.5	-80.5	-43.7	25.9	484.5	606.9	226.0	103.2
28500.0	330.3	-81.6	-44.6	26.1	476.4	605.5	225.5	104.6
29000.0	322.5	-82.8	-45.5	26.3	468.5	604.1	224.8	106.1
29500.0	314.6	-83.9	-46.5	26.5	460.8	602.6	223.8	107.0
30000.0	306.9	-85.0	-47.4	26.7	453.1	601.2	222.5	107.4
30500.0	303.2	-85.1	-48.3	26.9	445.6	599.8	221.3	107.6
31000.0	296.6	-87.4	-49.9	25.3**	438.2	593.2	220.3	106.6
31500.0	290.1	-88.7	-52.3	22.0**	430.9	590.6	219.4	105.7
32000.0	282.6	-90.0	-40.0	54.7	423.8	594.9	219.6	104.5
32500.0	277.3	-91.3	-57.4	15.4**	416.7	593.2	219.9	103.5
33000.0	271.2	-92.6	-60.4	12.0**	409.8	591.6	220.9	102.5
33500.0	265.2	-93.9	-63.9	8.7**	403.0	589.8	221.9	103.6
34000.0	259.3	-95.3	-66.4	5.4**	396.4	588.1	222.9	103.3
34500.0	253.5	-96.6	-75.7	2.1**	389.8	586.4	223.9	103.0
35020.0	247.8	-97.9	-47.8		383.3	584.7	225.0	101.9
35500.0	242.2	-99.1	-50.4		376.6	583.1	226.1	100.7
36000.0	236.6	-99.4	-50.4		370.1	581.4	227.5	99.1
36500.0	231.2	-91.7	-51.7		363.6	579.8	229.1	97.4
37000.0	225.8	-92.6	-52.6		356.7	578.6	230.4	95.2
37500.0	220.6	-92.9	-52.9		349.0	576.1	231.7	92.7
38000.0	215.4	-93.8	-53.8		342.1	577.0	232.2	90.2
38500.0	210.4	-95.0	-55.0		336.0	575.4	232.0	87.7
39000.0	205.4	-96.2	-56.2		329.9	573.8	230.9	85.5
39500.0	200.6	-97.4	-57.4		324.0	572.2	228.9	83.7
40000.0	195.8	-98.3	-58.3		317.5	571.0	227.0	82.7
40500.0	191.1	-99.1	-59.1		314.1	570.0	225.4	82.5
41000.0	186.6	-99.3	-59.6		304.0	569.7	224.7	82.7
41500.0	182.1	-98.5	-58.5		295.6	570.7	222.9	83.7
42000.0	177.8	-98.8	-59.8		288.8	570.4	227.0	84.1
42500.0	173.5	-99.2	-59.6		282.4	569.9	229.0	83.1
43000.0	169.3	-99.6			276.2	569.3	230.7	81.8

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3997.30 FEET MSL
10 MAY 79 0600 HRS MST
ASCENSION NO. 102

UPPER AIR DATA
1300060102
S M R

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE POINT	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	INDEX OF REFRACTION
43500.0	165.3	-60.0	270.1	568.8	231.6	78.4	1.000060
44000.0	161.3	-60.4	264.2	568.2	232.5	75.2	1.000059
44500.0	157.4	-60.9	258.3	567.6	233.6	74.7	1.000058
45000.0	153.7	-61.3	252.6	567.1	234.6	74.2	1.000056
45500.0	150.0	-60.2	245.3	568.5	236.3	76.9	1.000055
46000.0	146.4	-58.2	237.2	571.2	237.9	83.9	1.000053
46500.0	142.9	-57.4	230.8	572.2	238.9	91.1	1.000051
47000.0	139.5	-57.7	225.6	571.0	239.8	98.3	1.000050
47500.0	136.2	-57.7	220.2	571.9	241.2	93.3	1.000049
48000.0	133.0	-57.0	214.3	572.8	242.6	88.0	1.000048
48500.0	129.8	-56.3	208.5	573.8	244.8	72.1	1.000046
49000.0	126.8	-55.5	202.9	574.7	246.0	56.2	1.000045
49500.0	123.8	-54.2	197.0	570.4	247.1	45.0	1.000044
50000.0	120.9	-52.8	191.2	570.3	244.8	34.4	1.000043
50500.0	116.1	-51.3	185.5	580.2	237.2	27.0	1.000041
51000.0	113.4	-50.1	180.2	561.9	223.7	21.4	1.000040
51500.0	112.7	-51.2	176.9	580.4	209.4	19.0	1.000039
52000.0	110.1	-52.3	173.6	579.0	199.5	18.9	1.000039
52500.0	107.5	-53.3	170.4	577.0	189.9	19.3	1.000038
53000.0	105.0	-54.4	167.3	576.2	193.8	23.5	1.000037
53500.0	102.6	-55.5	164.2	574.7	202.1	30.6	1.000037
54000.0	100.2	-56.6	161.2	573.3	207.3	38.0	1.000036
54500.0	97.8	-57.8	156.2	571.7	212.6	46.9	1.000035
55000.0	95.5	-59.0	155.3	570.1	217.3	56.6	1.000035
55500.0	93.2	-60.2	152.4	569.0	220.0	62.2	1.000034
56000.0	91.0	-61.3	149.6	567.0	221.9	60.3	1.000033
56500.0	88.6	-62.3	146.7	565.7	223.9	58.9	1.000033
57000.0	86.6	-62.1	143.0	565.9	226.0	52.7	1.000032
57500.0	84.5	-62.0	139.5	566.1	230.0	47.4	1.000031
58000.0	82.5	-61.6	135.9	566.6	234.7	38.7	1.000030
58500.0	80.5	-60.0	131.6	568.8	242.4	29.8	1.000029
59000.0	78.6	-58.4	127.5	571.0	253.1	20.8	1.000028
59500.0	76.7	-56.8	123.5	573.0	276.9	12.8	1.000028
60000.0	74.9	-57.8	121.2	571.7	305.1	9.8	1.000027
60500.0	73.1	-58.8	116.8	570.3	311.8	8.4	1.000026
61000.0	71.4	-59.8	116.5	569.9	310.8	6.9	1.000026
61500.0	69.7	-60.8	114.3	567.7	273.4	5.7	1.000025
62000.0	68.0	-61.9	112.1	566.2	239.0	7.0	1.000025
62500.0	66.4	-60.7	106.8	567.8	207.2	7.9	1.000024
63000.0	64.8	-59.3	105.5	569.7	187.1	10.4	1.000023

STATION ALTITUDE 3997.30 FEET MSL
 10 MAY 79 0800 HRS MST
 ASCENSION 10. 102

UPPER AIR DATA
 1300060102
 S M R

GEODETIC COORDINATES
 32°48.034 LAT DEG
 106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	REL.HUM. PERCENT	DENSITY METER	WIND DATA SPEED KNOTS	DIRECTION DEGREES (T.)	INDEX OF REFRACTION
63500.0	93.2	-57.9			102.4	571.6	167.4	1.000023
64000.0	61.7	-56.5			99.3	573.4	151.9	1.000022
64500.0	60.3	-55.1			96.3	575.3	144.6	1.000021
65000.0	58.9	-53.8			93.5	577.0	143.7	1.000021
65500.0	57.5	-53.9			91.3	578.9	142.9	1.000020
66000.0	56.1	-53.9			89.2	579.8	143.5	1.000020
66500.0	54.8	-54.0			87.2	576.8	144.3	1.000019
67000.0	53.6	-54.0			85.1	576.7	134.4	1.000019
67500.0	52.3	-54.1			83.2	576.6	106.0	1.000019
68000.0	51.1	-54.1			81.3	576.5	71.2	1.000018
68500.0	49.9	-54.2			79.4	576.5	63.3	1.000018
69000.0	48.7	-53.7			77.4	577.1	58.3	1.000017
69500.0	47.6	-53.3			75.4	577.7	56.0	1.000017
70000.0	46.5	-52.8			73.5	576.3	62.7	1.000016
70500.0	45.4	-52.4			71.7	576.9	68.5	1.000016
71000.0	44.4	-52.1			69.9	579.2	76.6	1.000016
71500.0	43.3	-52.4			68.4	576.6	68.6	1.000015
72000.0	42.3	-52.8			66.9	576.3	104.2	1.000015
72500.0	41.4	-53.1			65.5	577.9	116.0	1.000015
73000.0	40.4	-53.5			64.1	577.4	129.2	7.8
73500.0	39.5	-53.8			62.7	577.0	141.1	1.000014
74000.0	38.6	-53.8			61.2	577.0	149.9	9.1
74500.0	37.7	-53.3			59.7	577.6	156.7	1.000013
75000.0	36.8	-52.9			58.2	578.2	154.0	1.000013
75500.0	35.9	-52.4			56.7	578.8	150.7	1.000013
76000.0	35.1	-52.0			55.3	579.3	140.3	1.000012
76500.0	34.3	-51.6			53.9	579.9	132.7	13.5
77000.0	33.5	-51.1			52.6	580.5	119.0	13.9
77500.0	32.8	-50.7			51.3	581.1	106.3	14.6
78000.0	32.0	-50.2			50.0	584.7	94.1	15.4
78500.0	31.3	-49.8			46.8	582.2	83.7	16.8
79000.0	30.5	-49.3			47.5	564.8	76.3	17.5
79500.0	29.8	-48.9			46.4	583.4	69.8	18.0
80000.0	29.2	-48.5			45.2	585.9	63.8	16.7
80500.0	28.5	-48.2			44.1	584.3	61.2	18.3
81000.0	27.9	-47.8			43.1	584.6	58.6	17.9
81500.0	27.2	-47.4			42.0	555.3	57.6	17.3
82000.0	26.6	-47.1			41.0	585.6	62.9	16.0
82500.0	26.0	-46.7			40.0	580.2	69.0	14.8
83000.0	25.4	-46.3			39.1	560.7	77.5	13.5

STATION ALTITUDE 3997.30 FEET MSL
10 MAY 79 0800 HRS MST
ASCENSION NO. 102

UPPER AIR DATA
1300060102
S M B

GEOGRAPHIC COORDINATES
32°48'03.4" LAT DEG
106°42'30.7" LONG DEG

INDEX OF REFRACTION	WIND DATA	SPEED OF KNOTS	DIRECTION DEGREES(TH)	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	TEMPERATURE AIR DEWPONT DEGREES CENTIGRADE	PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET
1.000008	12.2	89.3	38.1	587.2	24.9	-46.0	83500.0	0
1.000008	11.6	103.1	37.2	587.4	24.3	-45.8	84000.0	0
1.000008	11.6	110.3	36.4	587.3	23.7	-45.9	84500.0	0
1.000008	11.6	111.2	35.6	587.2	23.2	-45.9	85000.0	0
1.000008	11.6	112.0	34.6	587.2	22.7	-46.0	85500.0	0
1.000008	11.7	111.4	34.0	587.1	22.2	-46.0	86000.0	0
1.000007	12.5	102.3	33.3	587.0	21.7	-46.1	86500.0	0
1.000007	12.6	94.4	32.5	586.9	21.2	-46.2	87000.0	0
1.000007	13.6	87.6	31.6	586.9	20.7	-46.2	87500.0	0
1.000007	14.9	83.9	31.1	586.8	20.3	-46.3	88000.0	0
1.000007	15.2	80.5	30.4	586.9	19.8	-46.2	88500.0	0
1.000007	15.3	80.5	29.7	587.4	19.4	-45.8	89000.0	0
1.000007	15.4	77.3	29.0	587.8	18.9	-45.5	89500.0	0
1.000006	15.1	74.6	28.3	588.2	18.5	-45.2	90000.0	0
1.000006	14.6	73.2	27.7	588.6	18.1	-44.9	90500.0	0
1.000006	12.9	71.6	27.0	589.0	17.7	-44.5	91000.0	0
1.000006	11.8	69.7	26.4	589.5	17.3	-44.2	91500.0	0
1.000006	11.2	66.9	25.8	589.9	17.0	-43.9	92000.0	0
1.000006	10.7	68.4	25.2	590.3	16.6	-43.6	92500.0	0
1.000006	10.2	67.6	24.6	590.7	16.2	-43.2	93000.0	0
1.000005	10.4	63.3	24.0	591.1	15.9	-42.9	93500.0	0
1.000005	10.4	63.3	23.4	591.5	15.5	-42.6	94000.0	0
1.000005	10.8	60.6	22.9	591.9	15.2	-42.3	94500.0	0
1.000005	11.2	58.0	22.4	592.4	14.8	-42.0	95000.0	0
1.000005	11.5	55.9	21.8	592.8	14.5	-41.6	95500.0	0
1.000005	11.8	53.5	21.3	593.2	14.2	-41.3	96000.0	0
1.000005	12.0	51.1	20.8	593.6	13.9	-41.0	96500.0	0
1.000005	12.2	50.2	20.3	594.0	13.6	-40.7	97000.0	0
1.000005	12.2	50.9	19.9	594.4	13.3	-40.3	97500.0	0
1.000004	12.1	51.6	19.4	594.8	13.0	-40.0	98000.0	0
1.000004	12.1	52.4	19.0	595.3	12.7	-39.7	98500.0	0
1.000004	12.0	54.9	18.5	595.7	12.4	-39.4	99000.0	0
1.000004	11.9	57.5	18.1	596.1	12.1	-39.0	99500.0	0
1.000004	11.9	60.2	17.7	596.5	11.9	-38.7	100000.0	0
1.000004	12.3	62.5	17.7	596.5	11.6	-38.4	100500.0	0
1.000004	13.1	63.6	17.2	596.9	11.4	-38.1	101000.0	0
1.000004	14.0	65.0	16.8	597.3	11.1	-37.7	101500.0	0
1.000004	14.8	66.2	16.4	597.7	10.9	-37.4	102000.0	0
1.000004	14.4	71.7	16.1	598.1	10.6	-37.1	102500.0	0
1.000003	14.1	77.6	15.7	598.6	10.4	-36.8	103000.0	0

STATION ALTITUDE 3997.30 FEET MSL
 10 MAY 79 0800 HRS MST
 ASCENSION NO. 102

UPPER AIR DATA
 1300060102
 S M R

GEOGRAPHIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
103500.0	10.2	-36.4			15.0	599.4	94.1	12.1	1.000003
104000.0	9.9	-36.2			14.6	599.6	115.1	9.6	1.000003
104500.0	9.7	-36.4			14.3	599.5	143.8	9.1	1.000003
105000.0	9.5	-36.5			14.0	599.3	169.3	10.7	1.000003
105500.0	9.3	-36.7			13.7	599.1	180.9	12.0	1.000003
106000.0	9.1	-36.8			13.4	598.9	169.2	13.2	1.000003
106500.0	8.9	-37.0			13.2	598.7	196.0	14.7	1.000003
107000.0	8.7	-37.1			12.9	598.5	201.4	16.4	1.000003
107500.0	8.5	-37.3			12.6	598.3	205.9	18.2	1.000003
108000.0	8.4	-37.4			12.3	598.2	206.6	19.8	1.000003
108500.0	8.2	-37.6			12.1	598.0	204.7	21.3	1.000003
109000.0	8.0	-37.7			11.8	597.8	203.0	22.9	1.000003
109500.0	7.8	-37.9			11.6	597.6	201.6	24.4	1.000003
110000.0	7.7	-38.0			11.3	597.4	200.4	26.0	1.000003
110500.0	7.5	-38.1			11.1	597.2			1.000002
111000.0	7.3	-38.3			10.9	597.0			1.000002
111500.0	7.2	-38.4			10.6	596.8			1.000002
112000.0	7.0	-38.6			10.4	596.7			1.000002
112500.0	6.9	-39.1			10.2	595.9			1.000002
113000.0	6.7	-39.7			10.0	595.2			1.000002

STATION ALTITUDE 3997.30 FEET MSL
 10 MAY 79 0800 HRS MST
 ASCENSION NO. 102

MRN SIGNIFICANT LEVEL DATA
 1300060102
 S M P

GEOGRAPHIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

GEOPOTENTIAL ALTITUDE DECAMETERS	DIRECTION DEG (TM)	WIND DATA		DEW PT DEP DEG C	TEMPERATURE AIR DEG C	PRESSURE MILLIBARS
		SPEED MPS	N-S MPS			
3425.	9999.**	9999.**	-9999.**	-9999.**	99	6700+0
3395.	9999.**	9999.**	-9999.**	-9999.**	99	6700+0
3149.	109.	5.	2.	-15.	99	-30.6
2078.	62.	8.	-1.	-10.	99	-36.2
2540.	95.	0.	1.	-10.	99	-46.3
2409.	71.	9.	-3.	-15.	99	-45.8
2239.	146.	4.	-2.	-15.	99	-49.0
2152.	75.	6.	-2.	-10.	99	-54.0
2079.	64.	6.	-3.	-10.	99	-52.0
1972.	144.	10.	6.	-10.	99	-54.2
1885.	234.	4.	2.	-10.	99	-53.8
1865.	282.	3.	3.	-10.	99	-62.0
1807.	275.	3.	-1.	-10.	99	-60.6
1760.	234.	7.	-1.	7.	99	-56.8
1714.	223.	21.	12.	17.	99	-61.9
1642.	208.	30.	22.	24.	99	-62.3
		20.	18.	9.	99	-56.7
						1.0000+2

** WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3997.30 FEET MSL
 10 MAY 79 0600 HRS MST
 ASCENSION NO. 102

MANDATORY LEVELS
 1300060102
 S M R

GEODETIC COORDINATES
 32°48.034 LAT DEG
 106.42307 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES	AIR DEPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES (TN)	WIND SPEED KNOTS
850.0	4803.	10.6	-7.1	26.	212.1	5.2
800.0	6446.	6.3	-8.6	33.	272.6	11.2
750.0	6168.	1.8	-10.6	39.	261.6	19.8
700.0	9977.	-2.9	-12.9	46.	260.9	26.7
650.0	11885.	-7.3	-9.4	85.	251.7	44.9
600.0	13920.	-10.5	-13.1	81.	234.5	56.5
550.0	16095.	-15.6	-16.0	97.	225.3	62.7
500.0	18459.	-12.4	-29.2	23.	224.6	83.2
450.0	21083.	-16.8	-32.5	24.	225.4	93.5
400.0	23947.	-23.0	-37.5	23.	227.7	91.4
350.0	27126.	-28.6	-42.1	20.	226.2	100.8
300.0	30689.	-36.7	-48.6	27.	220.3	107.1
250.0	34739.	-47.4			224.5	102.4
200.0	39468.	-57.6			228.7	83.6
175.0	42219.	-59.0			228.2	83.5
150.0	45373.	-60.2			236.2	76.6
125.0	49155.	-54.8			247.8	49.9
100.0	53876.	-56.7			207.4	36.3
80.0	58434.	-59.6			244.2	26.1
70.0	61186.	-60.6			244.4	50.8
60.0	64361.	-54.8			144.7	18.5
50.0	68200.	-54.2			64.7	12.3
40.0	72922.	-53.6			134.0	7.5
30.0	79044.	-49.0			71.8	17.8
25.0	82937.	-46.1			65.0	12.6
20.0	87857.	-46.3			62.3	15.3
15.0	94190.	-42.1			57.4	11.3
10.0	103314.	-36.2			106.8	10.3
7.0	111395.	-38.6				

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3997.30 FEET MSL
10 MAY 79 0600 HRS MST
ASCENSION NO. 102

MRN MANDATORY LEVELS
1300060102
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

GEOPOTENTIAL ALTITUDE MEGAMETERS	DIRECTION DEG (TN)	WIND DATA			DEW PT DEP DEG C	TEMPERATURE AIR DEG C	PRESSURE MILLIBARS
		SPEED MPS	N-S MPS	E-W MPS			
3395.	9999.**	9999.**	-9999.**	-9999.**	99	-38.6	7.000+0
3149.	107.	5.	2.	-5.	99	-36.2	1.000+1
2971.	57.	6.	-3.	-5.	99	-42.1	1.500+1
2676.	62.	6.	-1.	-6.	99	-46.3	2.000+1
2530.	85.	6.	-1.	-6.	99	-46.1	2.500+1
2409.	72.	9.	-3.	-9.	99	-49.0	3.000+1
2223.	134.	4.	3.	-3.	99	-53.6	4.000+1
2079.	64.	6.	-3.	-6.	99	-54.2	5.000+1
1902.	145.	10.	6.	-10.	99	-54.8	6.000+1
1865.	284.	3.	-1.	-3.	99	-60.6	7.000+1
1781.	244.	14.	6.	15.	99	-59.6	8.000+1
1642.	207.	20.	17.	17.	99	-56.7	1.000+2
1496.	248.	26.	10.	24.	99	-54.8	1.250+2
1383.	236.	40.	22.	34.	99	-60.2	1.500+2
1287.	226.	43.	29.	32.	99	-59.0	1.750+2
1203.	229.	43.	28.	32.	99	-57.6	2.000+2
1059.	225.	53.	38.	37.	99	-47.4	2.500+2
935.	221.	55.	42.	36.	12	-36.7	3.000+2
827.	226.	52.	36.	37.	14	-28.6	3.500+2
730.	228.	47.	32.	35.	14	-23.0	4.000+2
643.	225.	46.	34.	34.	16	-16.8	4.500+2
563.	222.	43.	32.	39.	17	-12.4	5.000+2
491.	225.	32.	22.	22.	00	-15.6	5.500+2
424.	235.	29.	17.	24.	03	-10.5	6.000+2
362.	252.	23.	7.	22.	02	-7.3	6.500+2
304.	269.	15.	0.	15.	10	-2.9	7.000+2
249.	282.	10.	-2.	10.	12	1.8	7.500+2
196.	274.	9.	-9.	9.	15	6.3	8.000+2
146.	212.	3.	2.	2.	18	10.6	8.500+2

** WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.